AmeriTech Engineering Corporation
P.O. Box 1796
Williston, ND 58801

General Summary

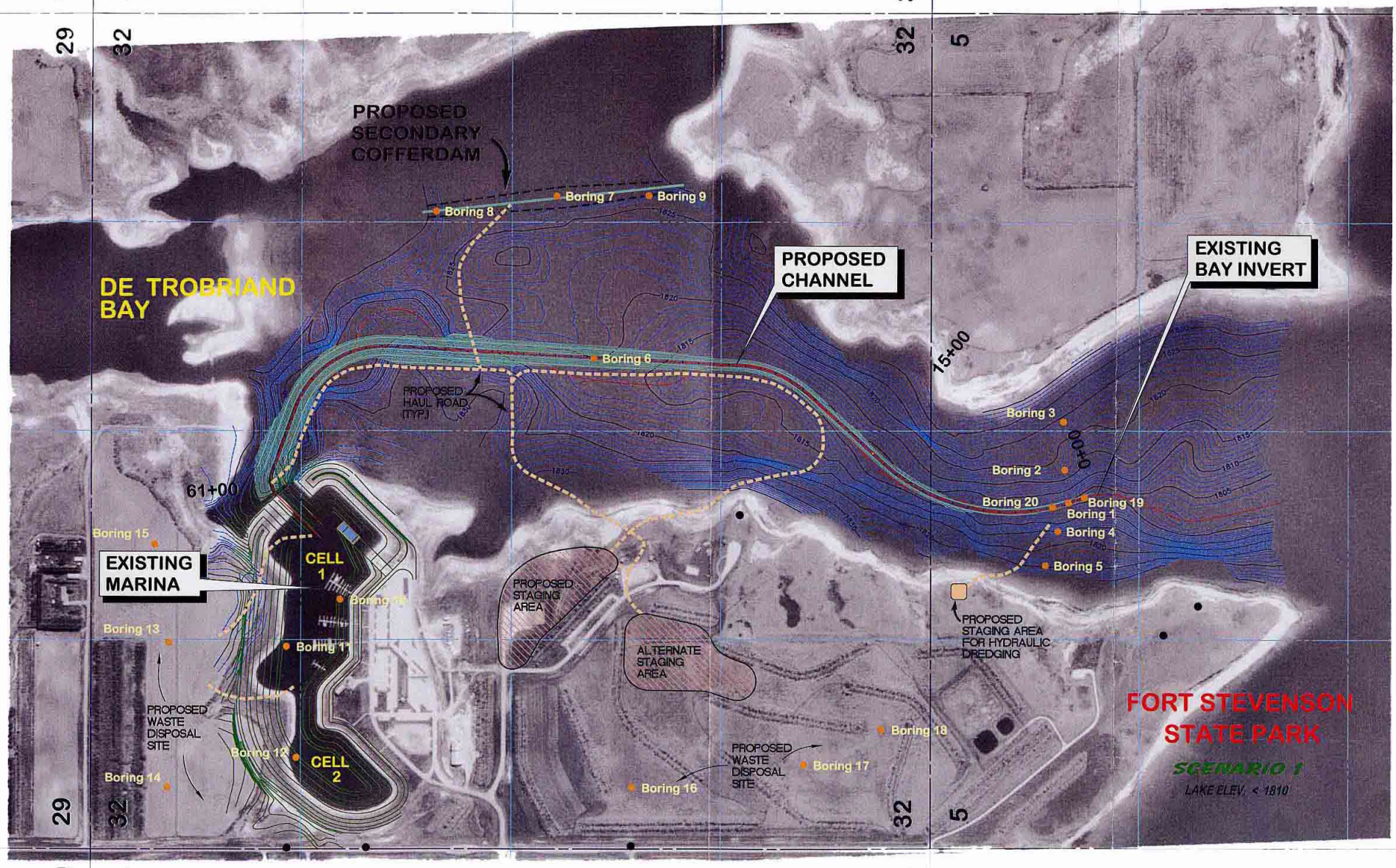
Cofferdam Scenarios
Marina Project - Fort Stevenson State Park
Garrison, ND

May 22, 2003

Lake Level Projection	Primary Cofferdam	Secondary Cofferdam	Maximum Height*		Footprint Width of Cofferdam**	Anticipated Construction Methodology
SCENARIO 1 Elev. < 1810	No	Yes	Secondary Cofferdam	14 feet	126 feet	-Excavate Marina Cell 1 & excavate 4,000 LF +/- of channel -Remaining 2,100 LF +/- of channel to be excavated with wide trackhoe equipment and/or dredged -Cofferdam will be constructed with imported granular material & sheet piled -Cofferdam will be removed after project completion
SCENARIO 2 1810 < Elev. < 1820	Sta 15+00	Yes	Primary Cofferdam	26 feet	222 feet	-Excavate Marina Cell 1 & excavate 4,600 LF +/- of channel -Remaining 1,500 LF +/- of channel to be dredged
			Secondary Cofferdam	14 feet	126 feet	-Primary cofferdam will be constructed of either imported granular material & sheetpiled or constructed of sandy lean clay material from the waste disposal site -Secondary cofferdam will be constructed with imported granular material & sheet piled -Cofferdams will be removed after project completion
SCENARIO 3 1820< Elev. < 1827	Sta 61+00 @ marina entrance	No	Primary Cofferdam	12 feet	110	-Excavate Marina Cell 1 -Dredge entire channel (6,100 LF +/-) -Primary cofferdam will be constructed of sandy lean clay material from within Marina Cell 1 or the waste disposal site -Cofferdam will be removed after project completion
Elev. > 1827	Project on hold until next opportunity of low lake levels.					

***Ultimate top elevation of all cofferdams is 1834 +/- based upon maximum projected lake elevation of 1829.**
****Width of footprint calculated at maximum height with a top width of 14 feet and 4:1 side slopes**

Attachment 1
200260650
Fort Stevenson Marina Dredging



DE TROBRIAND BAY
CONTOUR MAP
CHANNEL AND MARINA INVERT = 1805.0

0 300 600

Attachment 2
200260650
Fort Stevenson Marina Dredging

PRELIMINARY
For Review Only

FORT STEVENSON STATE PARK
MARINA PROJECT

HAUL ROAD LAYOUT
SCENARIO 1

AmeriTech Engineering Corporation

DATE: 5/20/03
DRWN BY: L.J.F.
CHKD BY:
PROJECT NO: 02-055
SHEET: 1
OF: 3

ATEC